

Replacement Sheet

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+

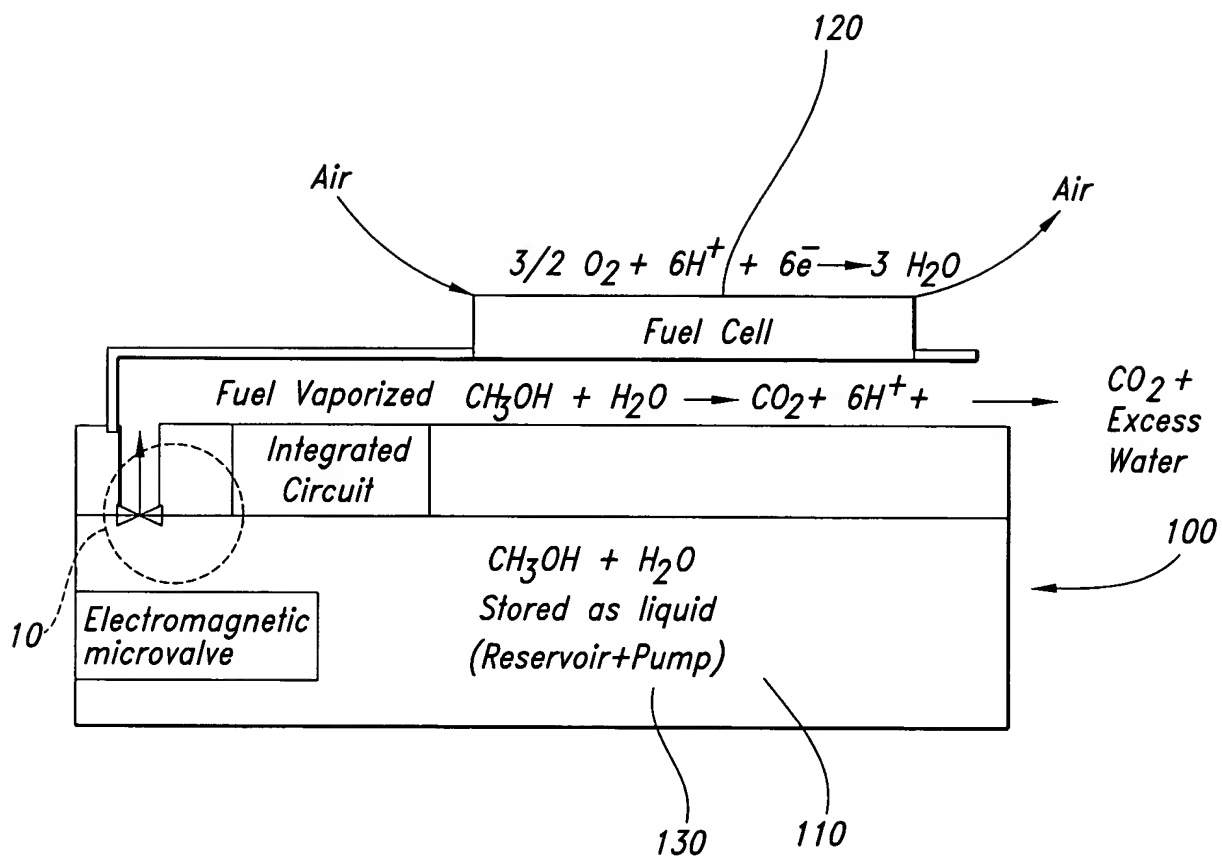


FIG. 1

+

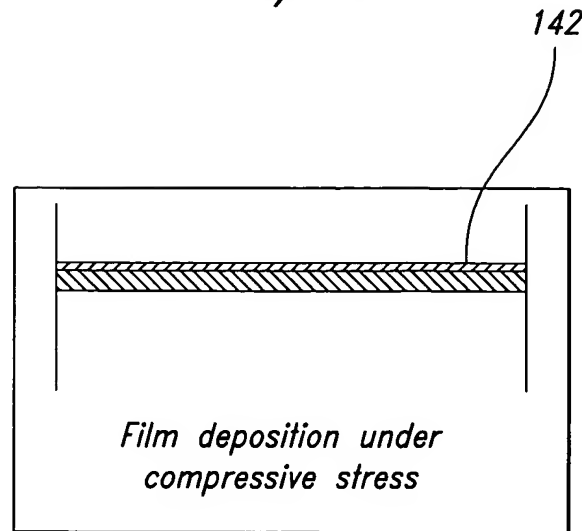


FIG. 2A

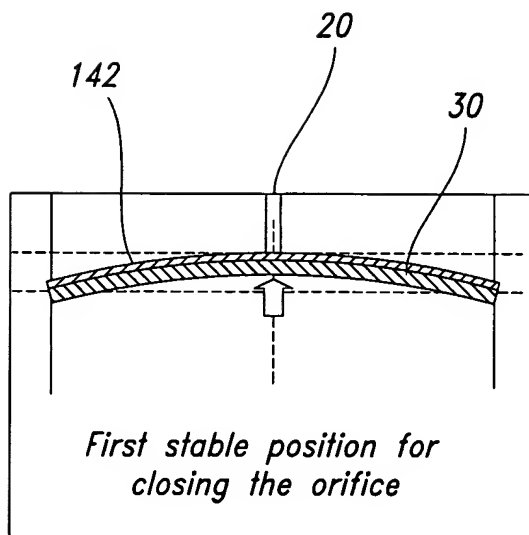


FIG. 2B

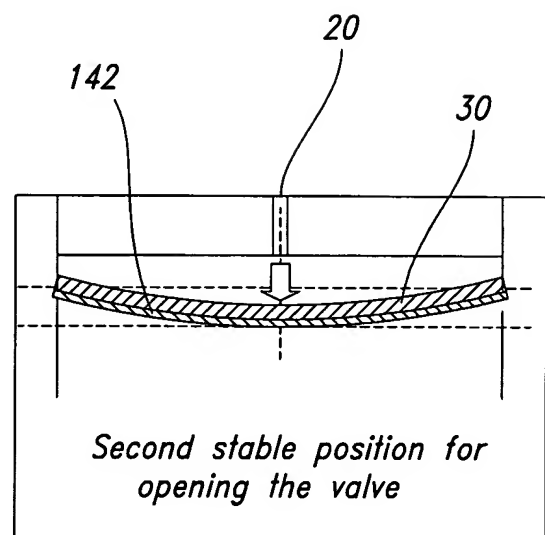


FIG. 2C



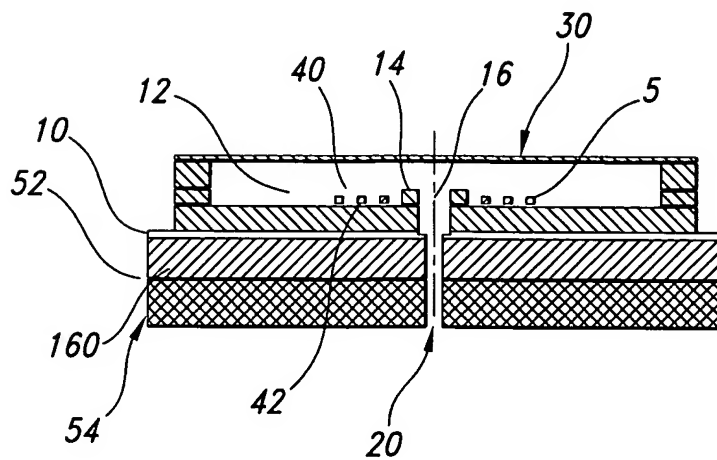


FIG. 3A

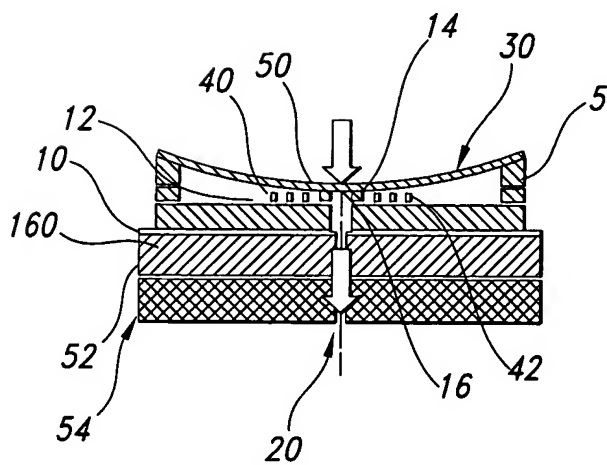


FIG. 3B

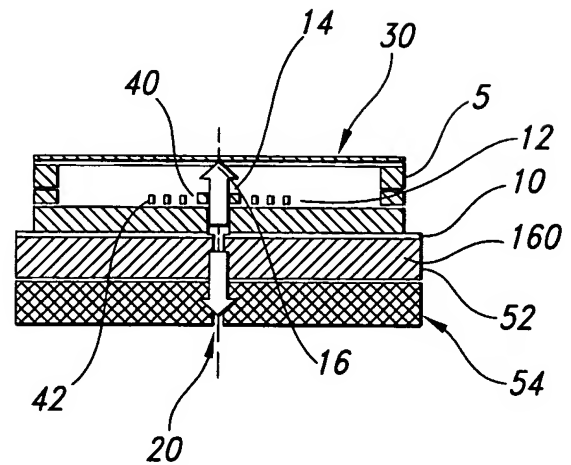


FIG. 3C



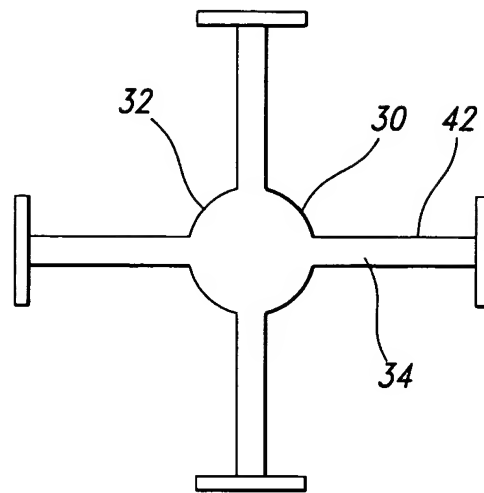


FIG. 4A

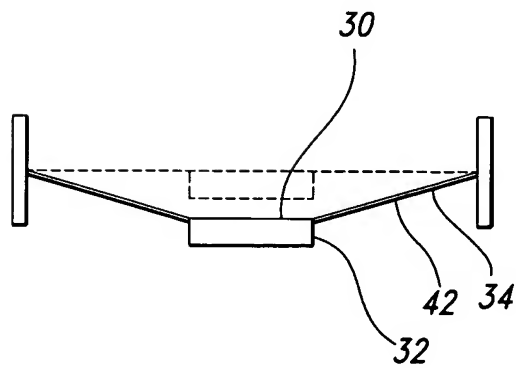


FIG. 4B



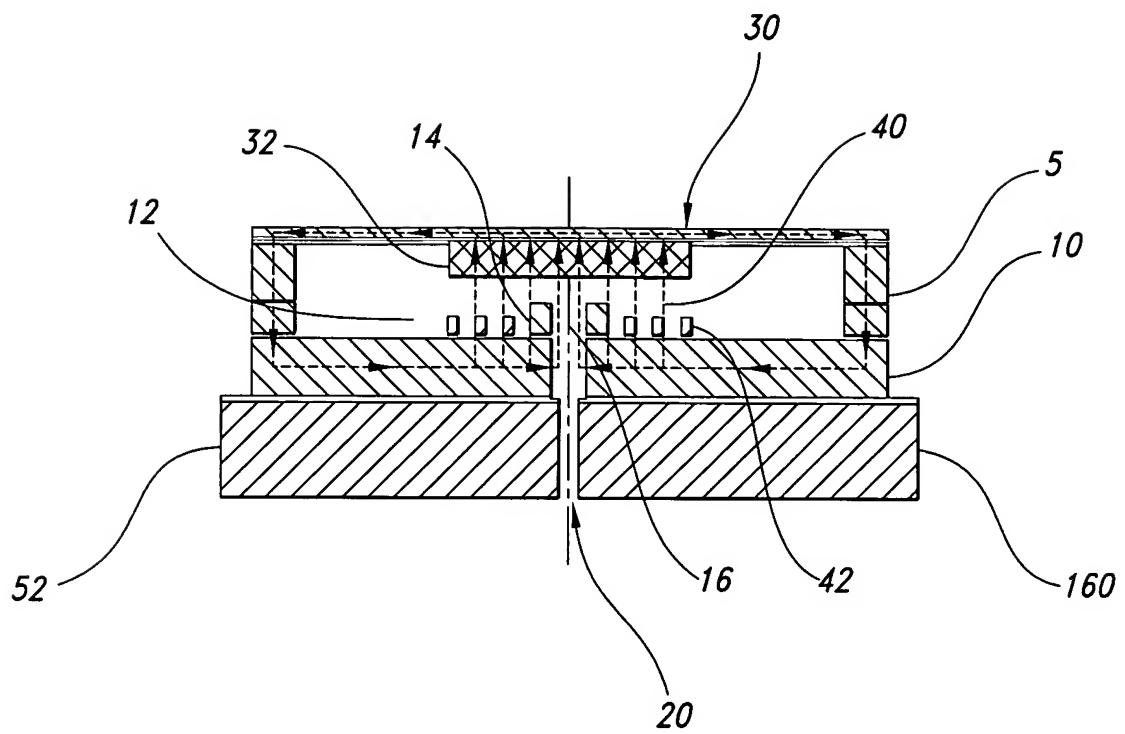


FIG. 5

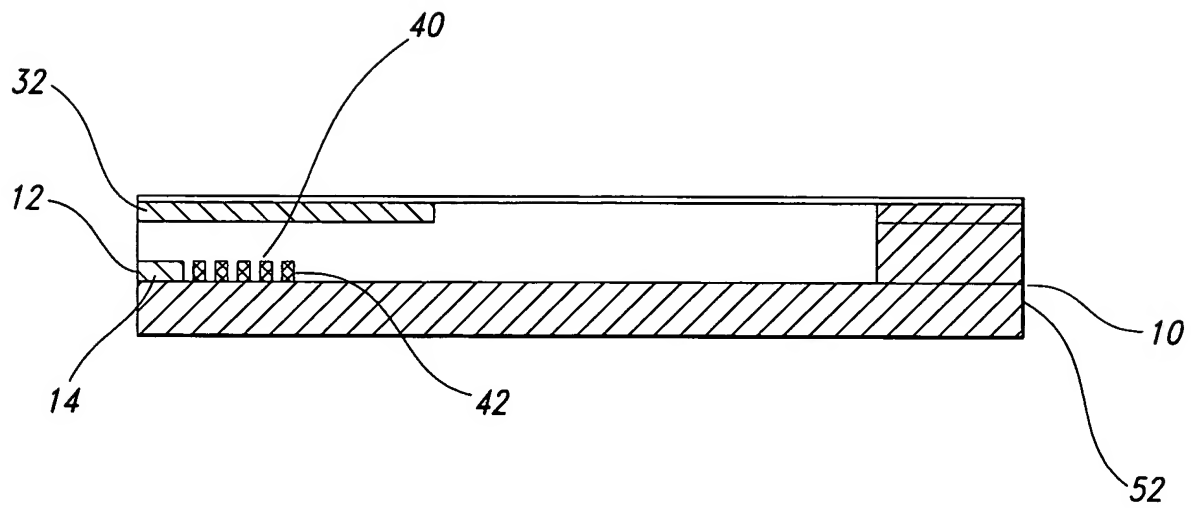


FIG. 6

Replacement Sheet

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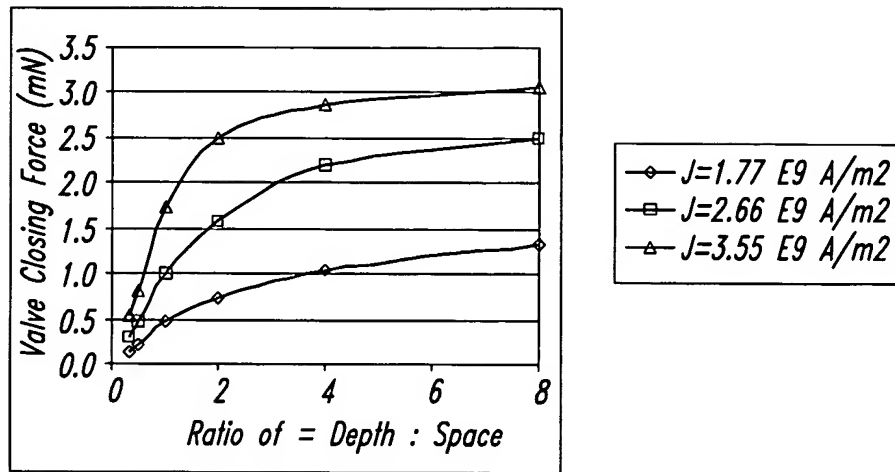


FIG. 7

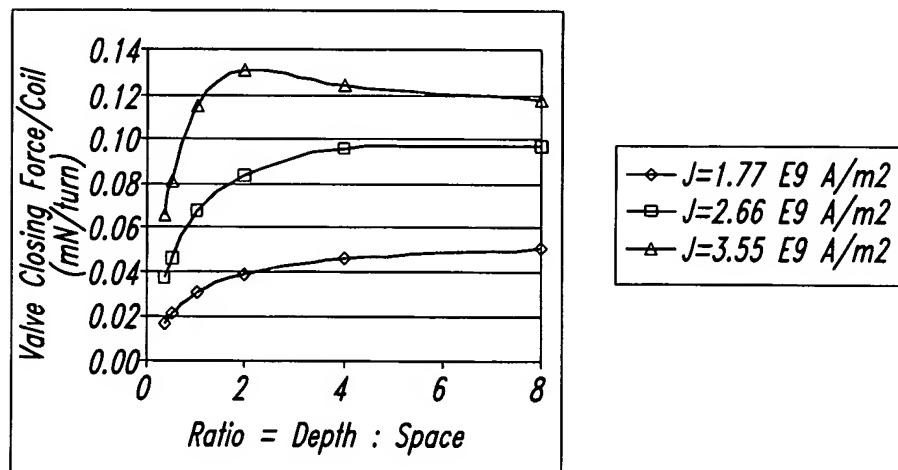


FIG. 8

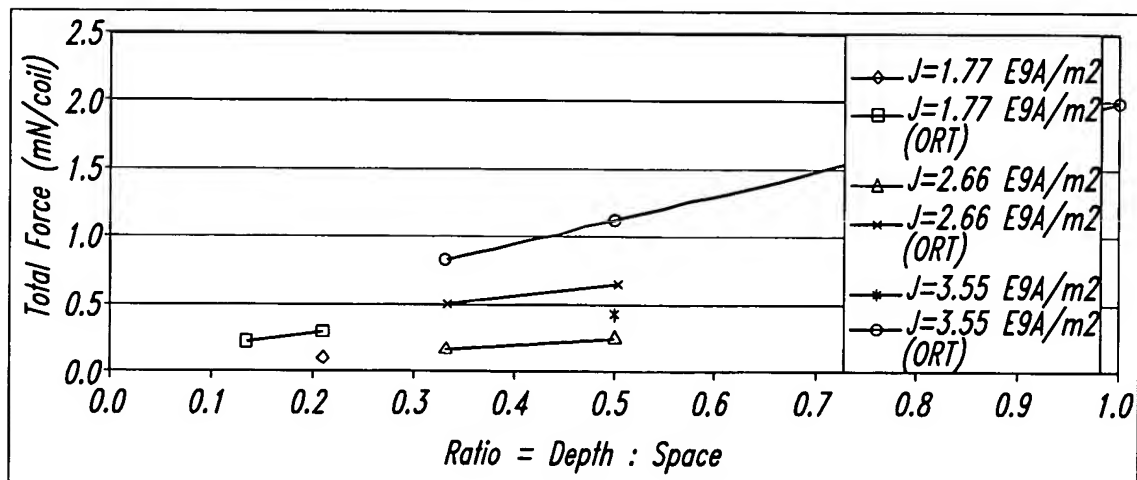


FIG. 9

Replacement Sheet

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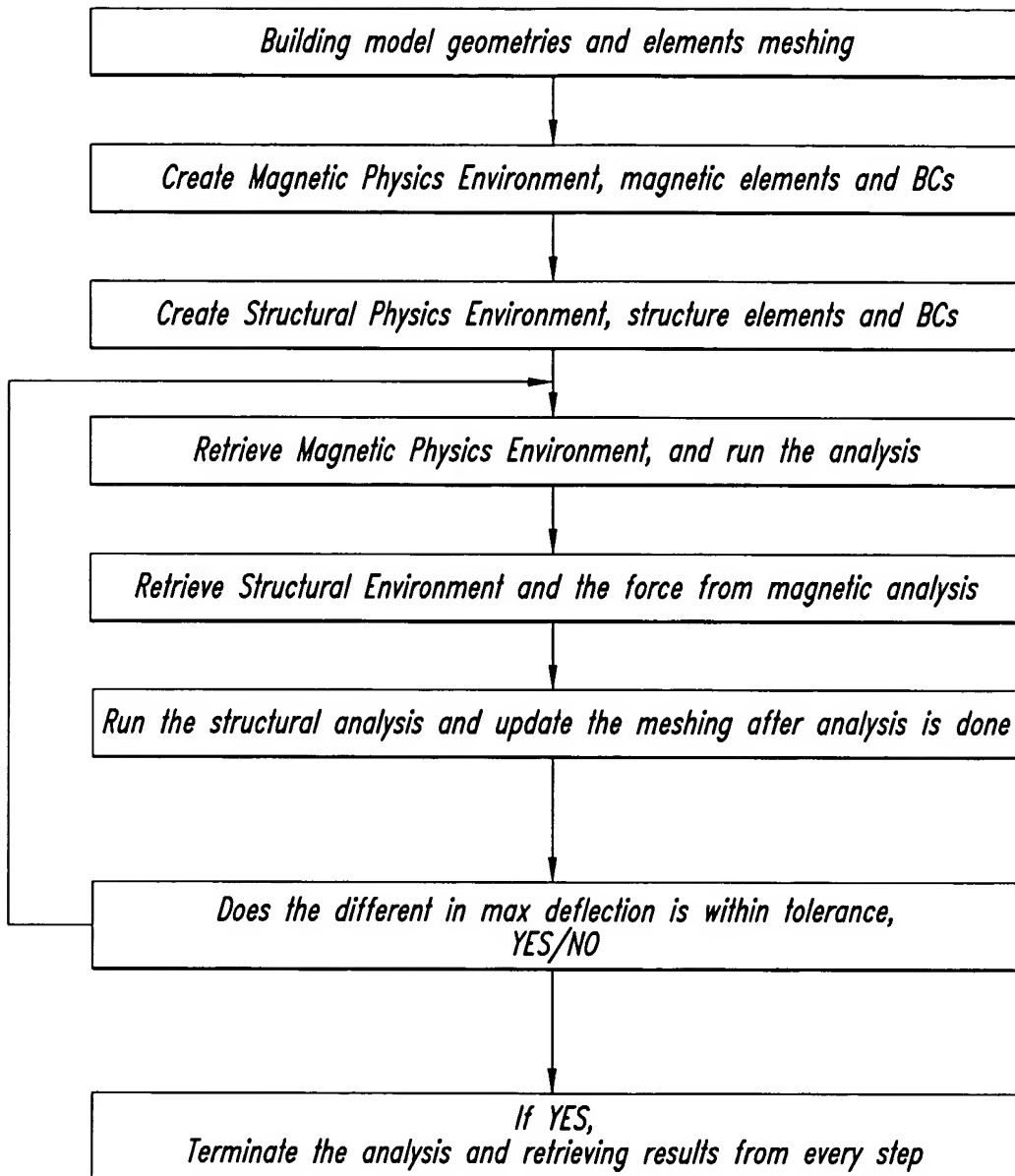


FIG. 10

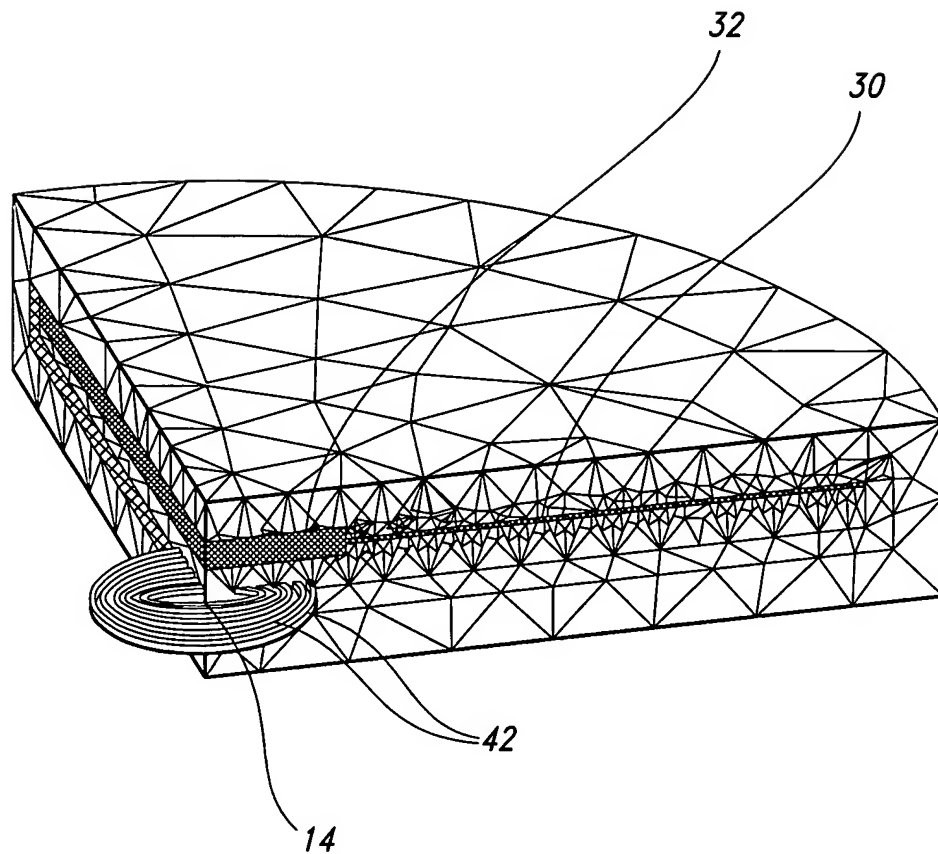


FIG. 11



Replacement Sheet

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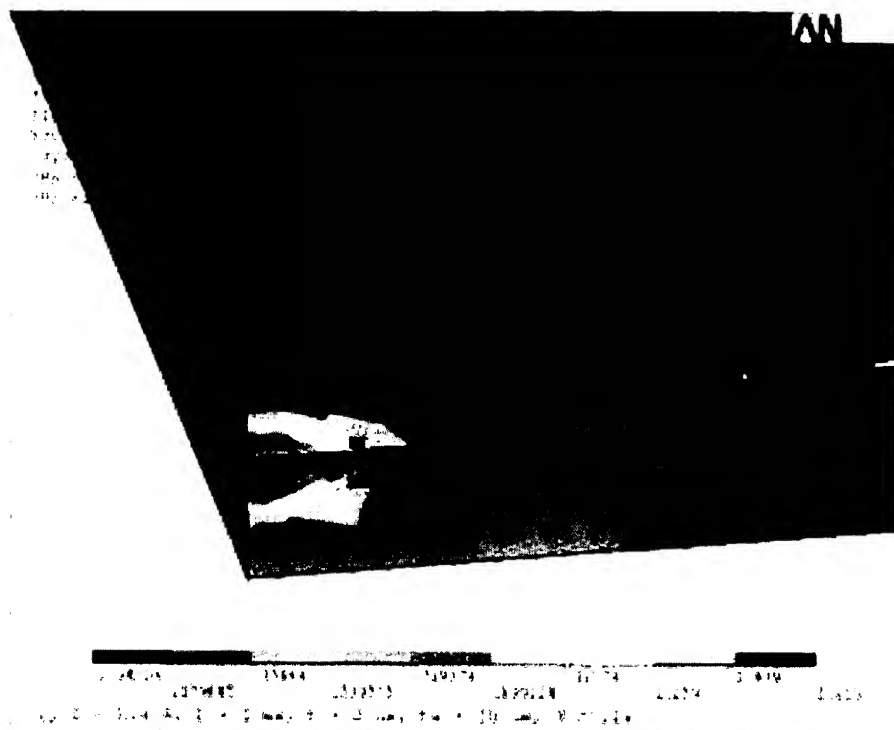


FIG. 12A

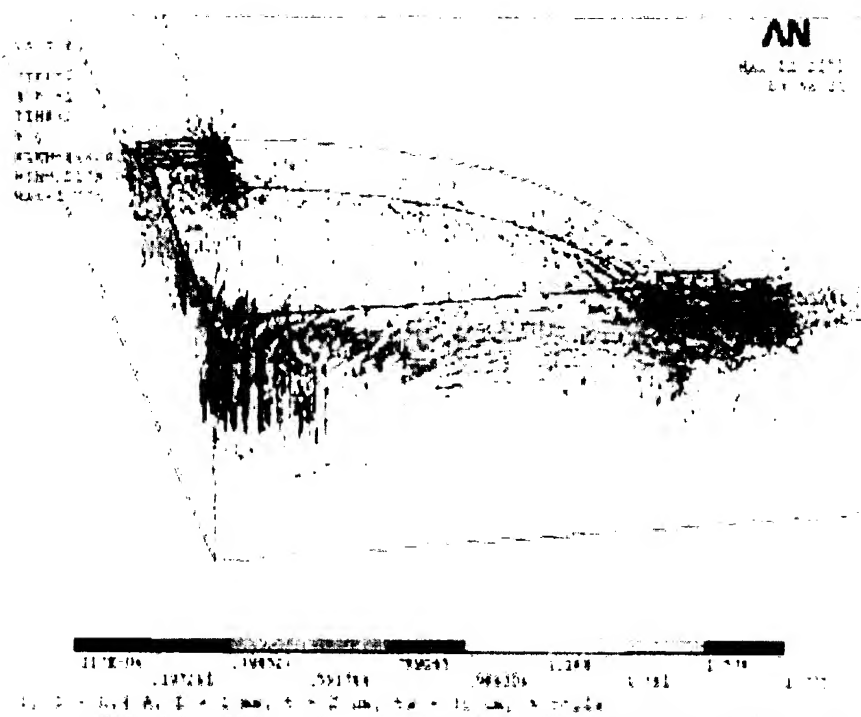
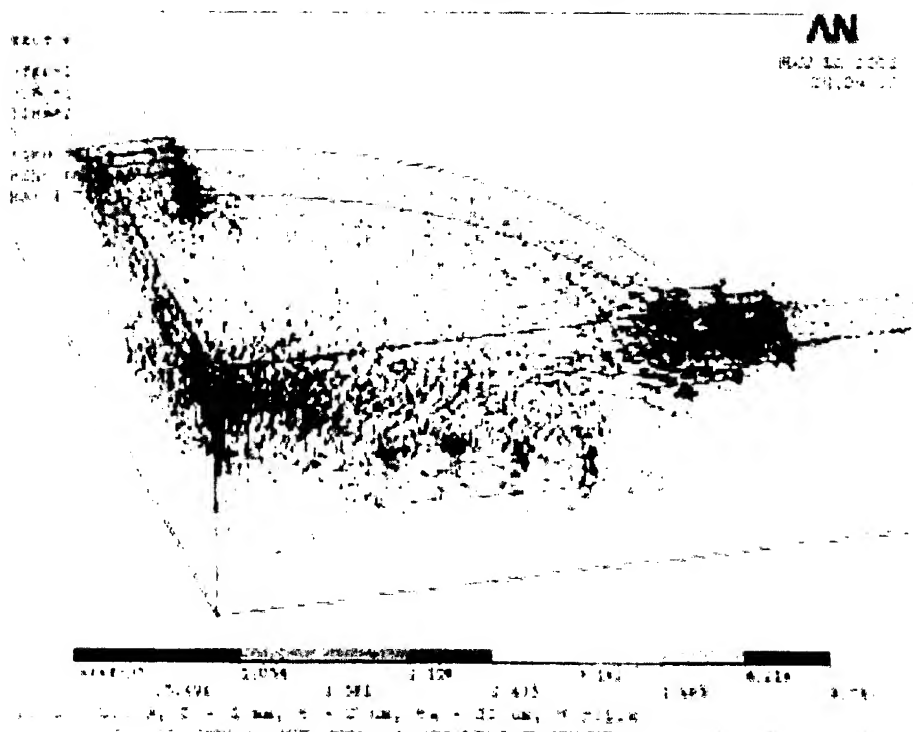
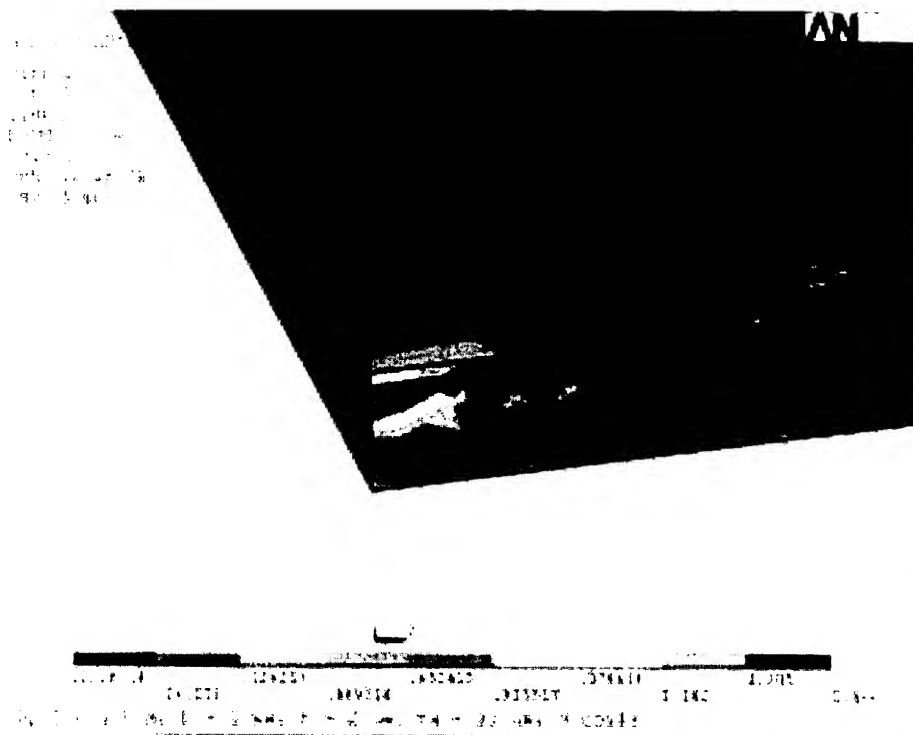


FIG. 12B



Replacement Sheet

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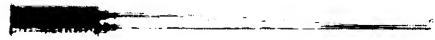


Replacement Sheet

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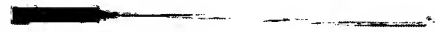
AN

FIG. 14A



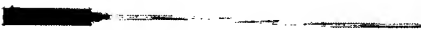
AN

FIG. 14B



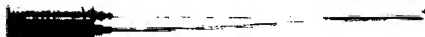
AN

FIG. 14C



AN

FIG. 14D



Replacement Sheet

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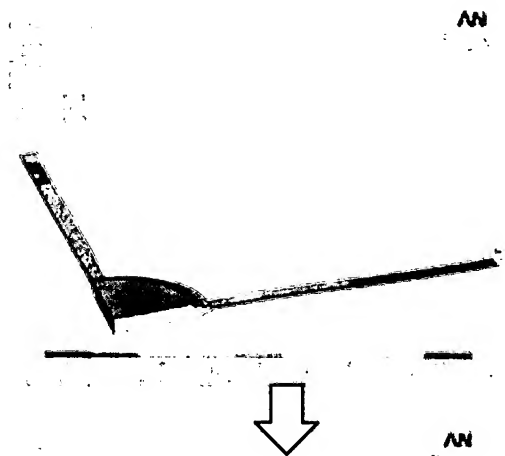


FIG. 15A

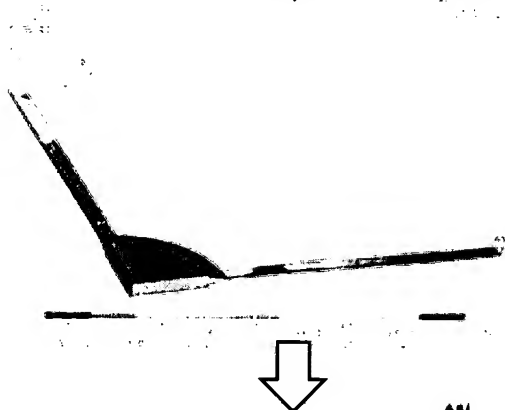


FIG. 15B



FIG. 15C

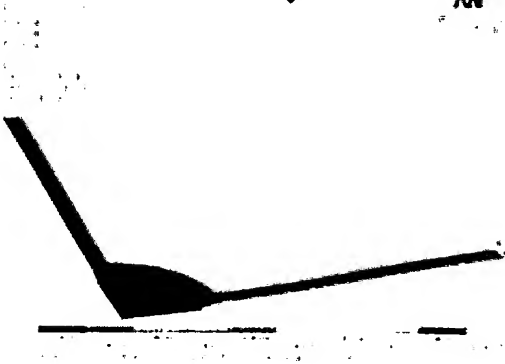


FIG. 15D

+

Replacement Sheet

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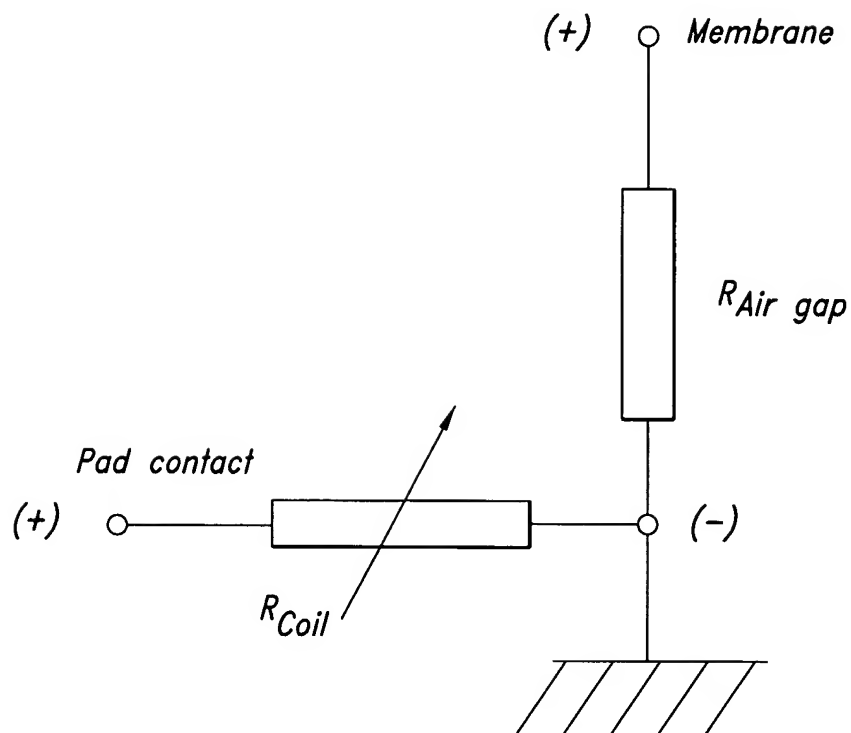


FIG. 16

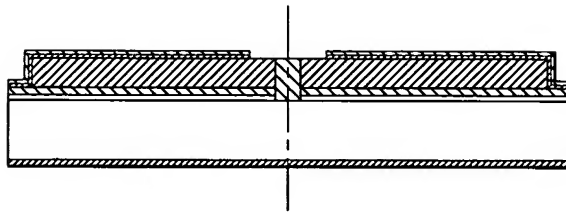


FIG. 17A

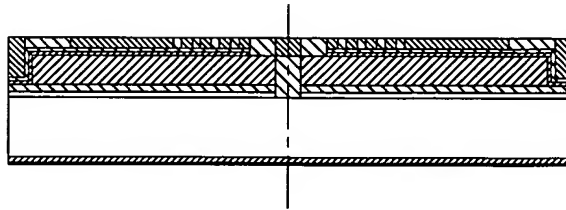


FIG. 17B



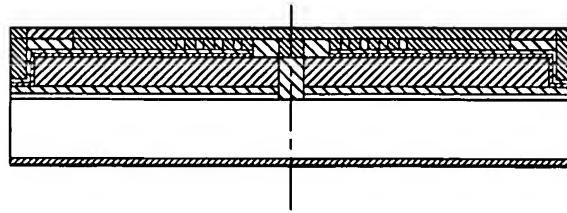


FIG. 17C

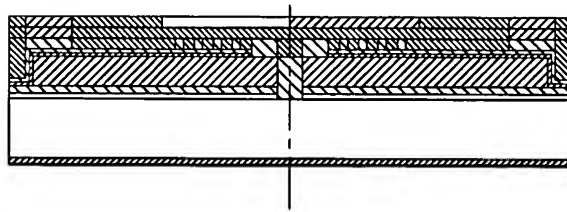


FIG. 17D

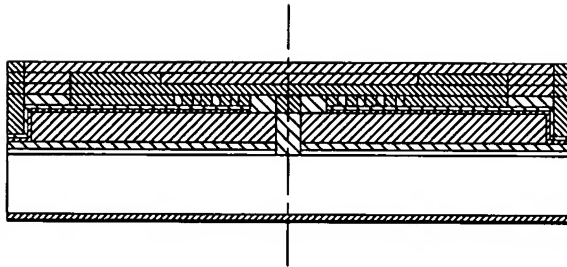


FIG. 17E

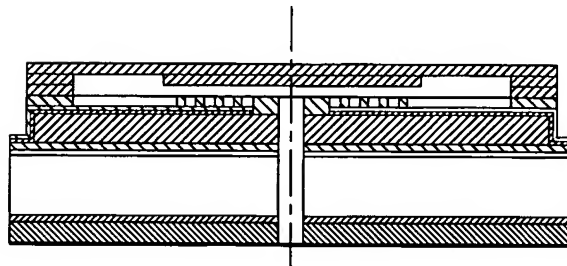


FIG. 17F



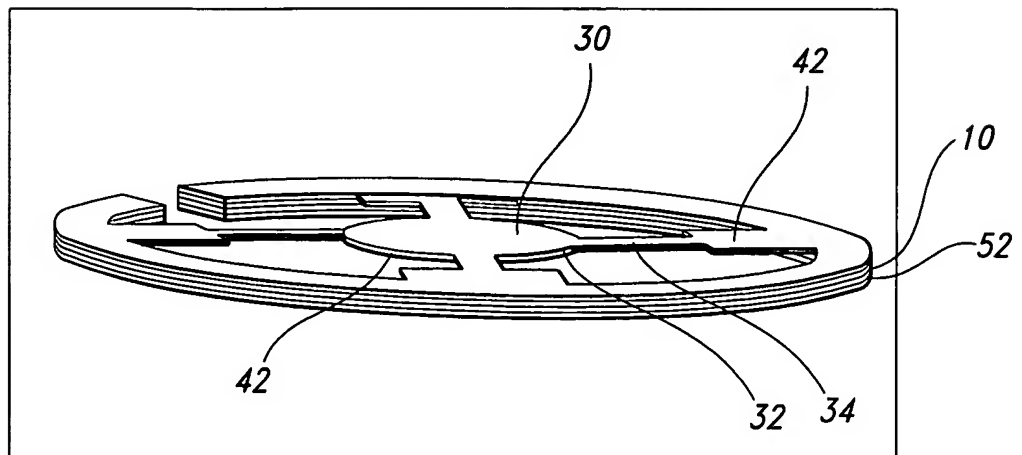


FIG. 18

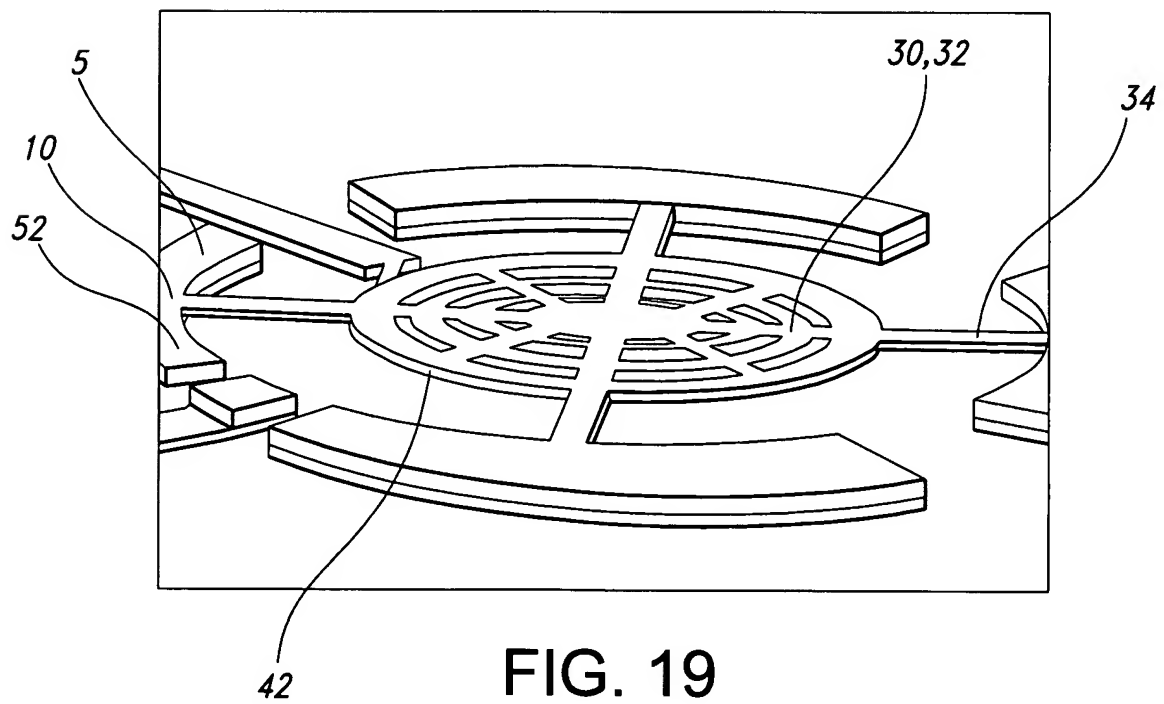
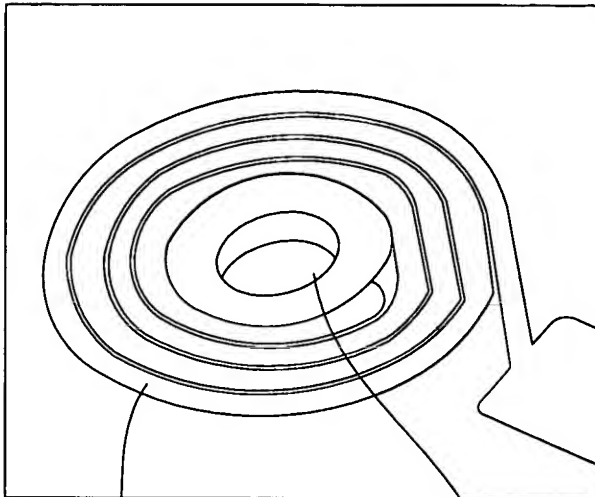


FIG. 19





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FIG. 20

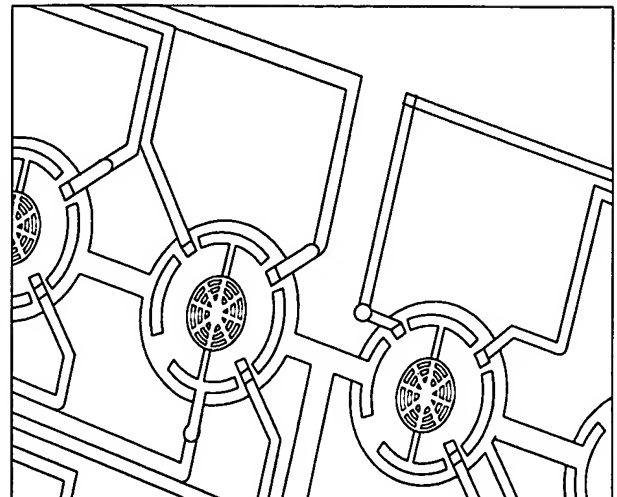


FIG. 21

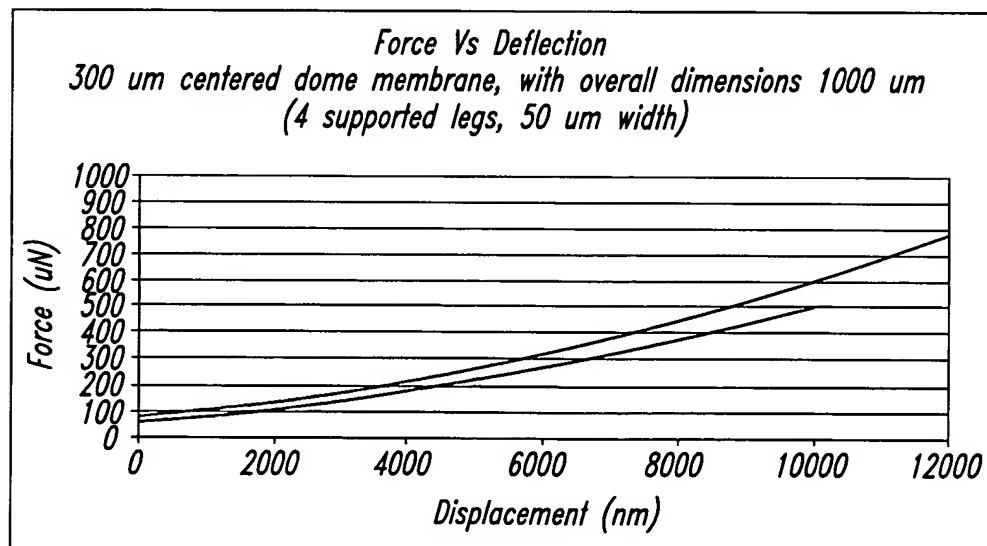


FIG. 22

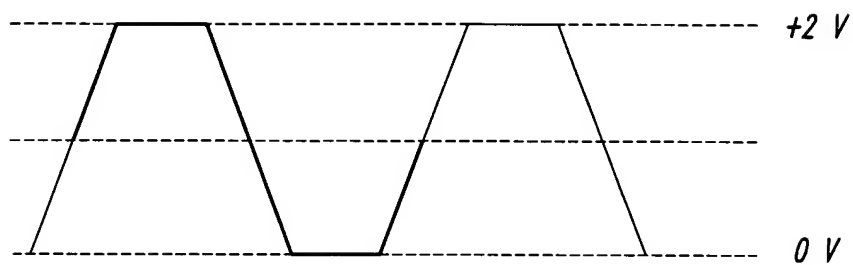


FIG. 23



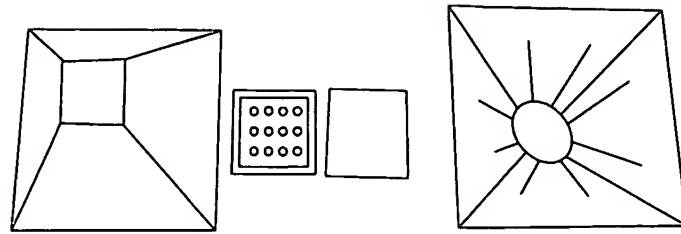


FIG. 24A

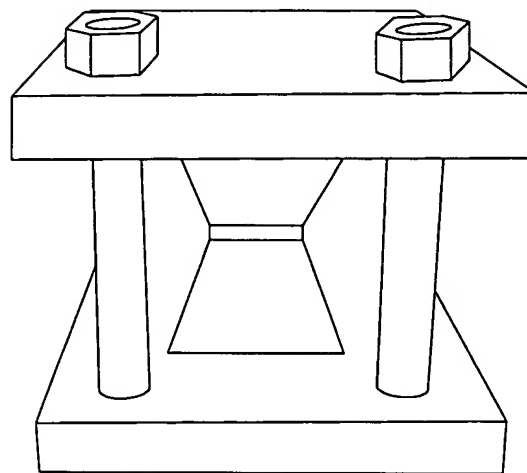


FIG. 24B

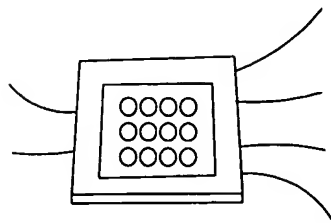


FIG. 24C



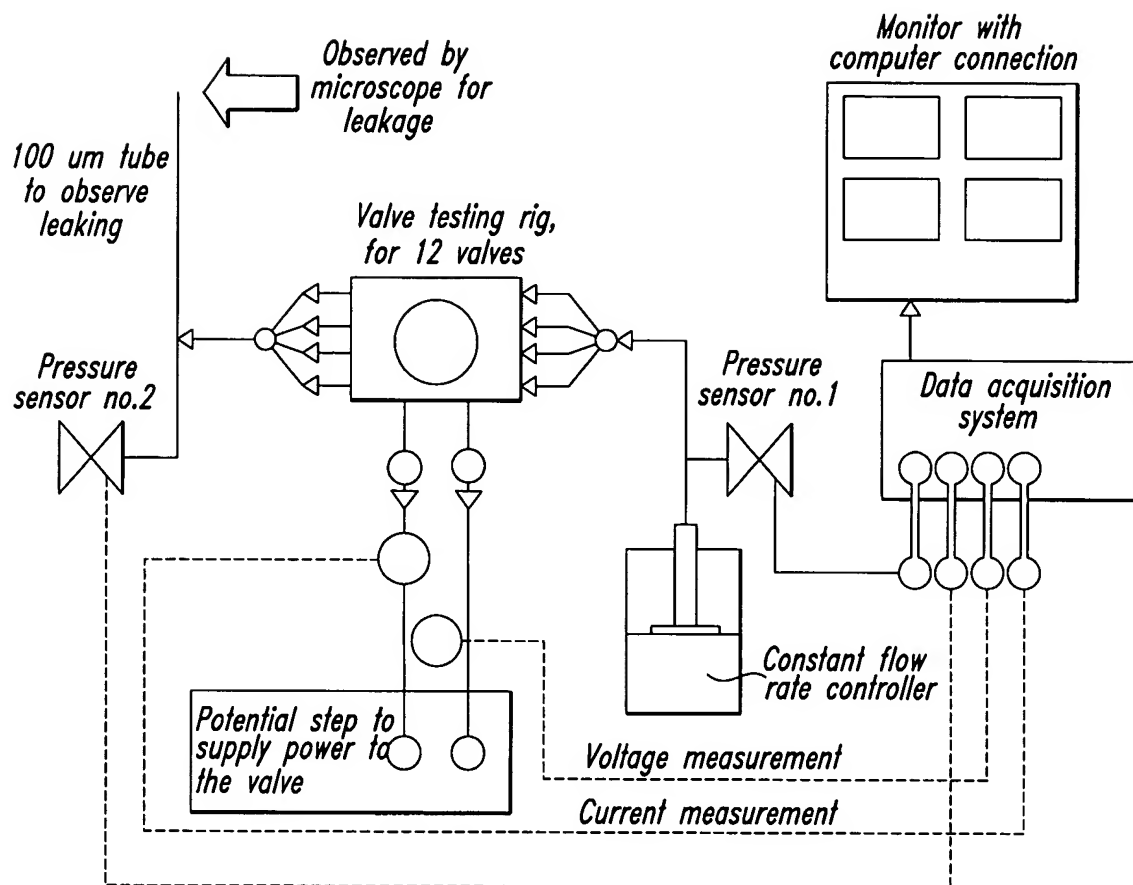


FIG. 25

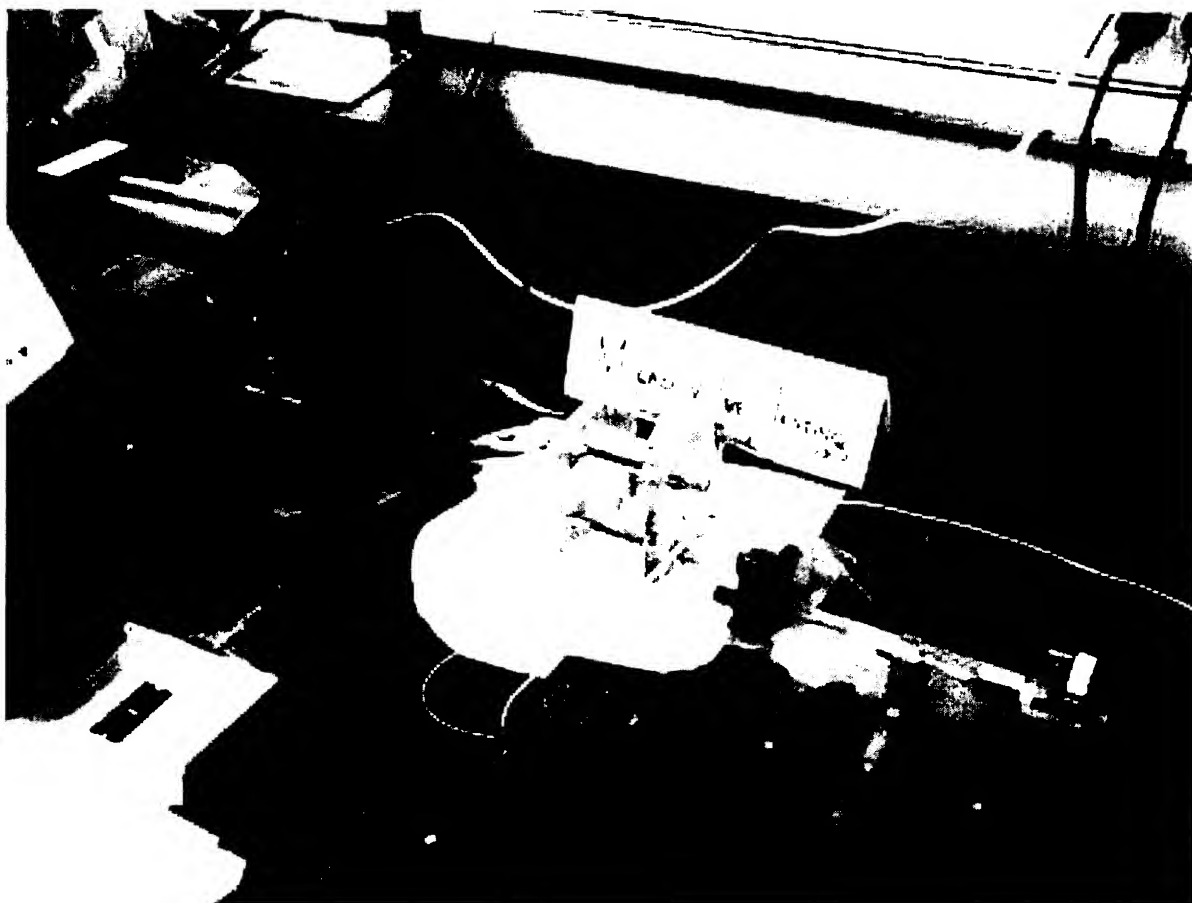


FIG. 26

Replacement Sheet

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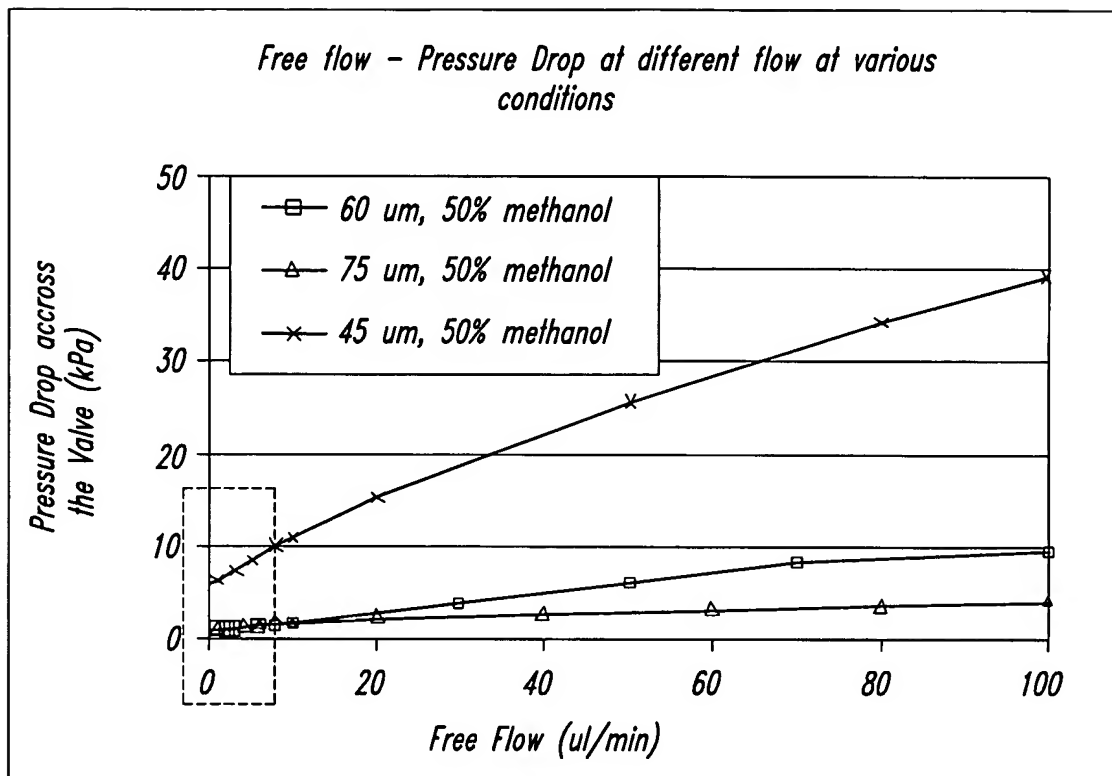


FIG. 27

Replacement Sheet

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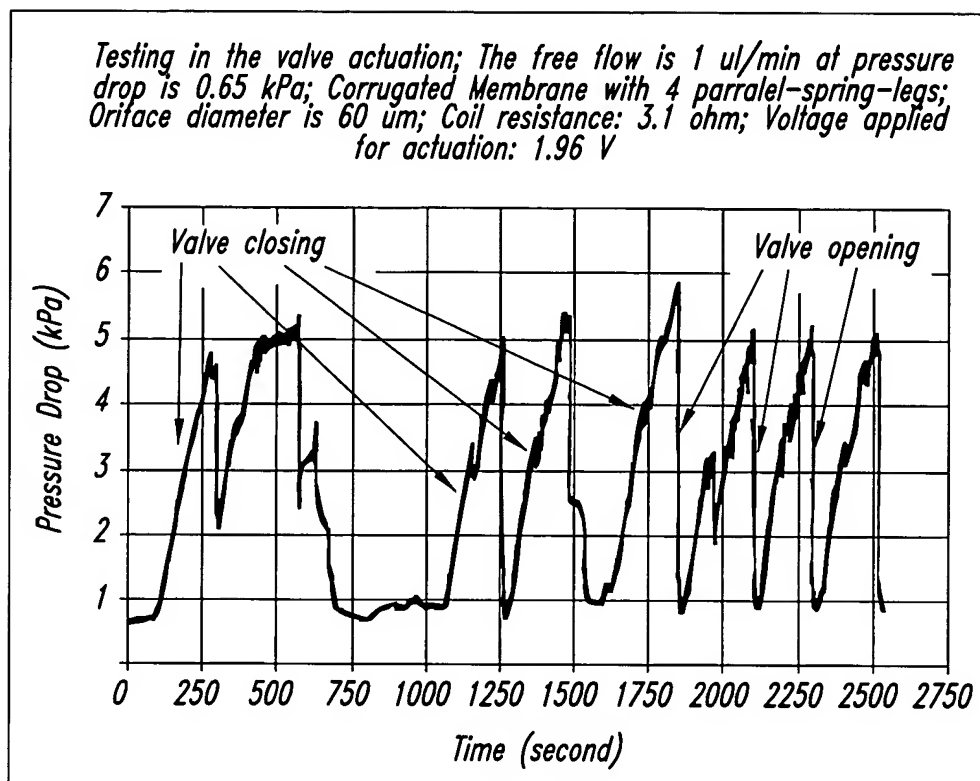


FIG. 28

Replacement Sheet

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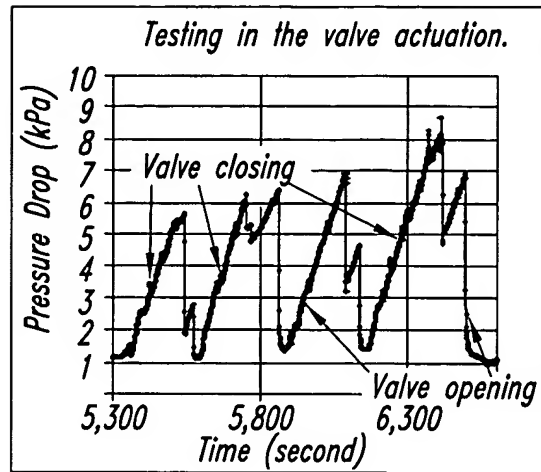


FIG. 29

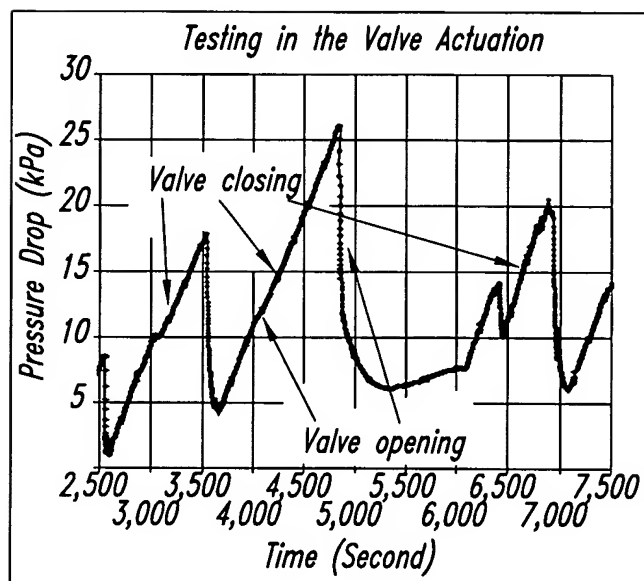


FIG. 30

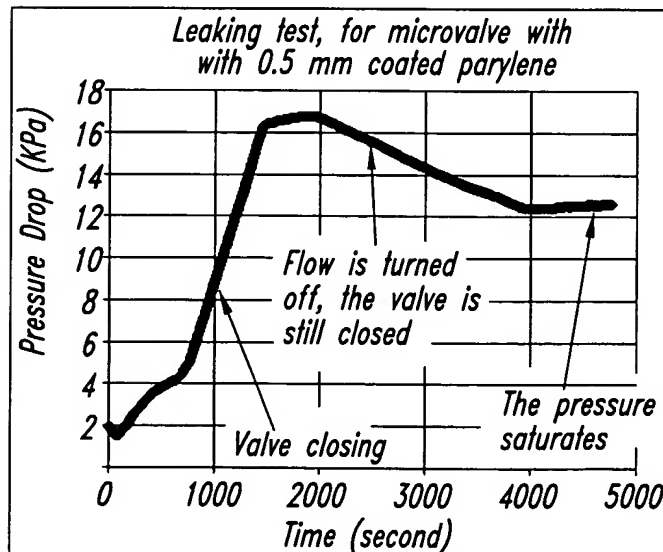


FIG. 31

Replacement Sheet

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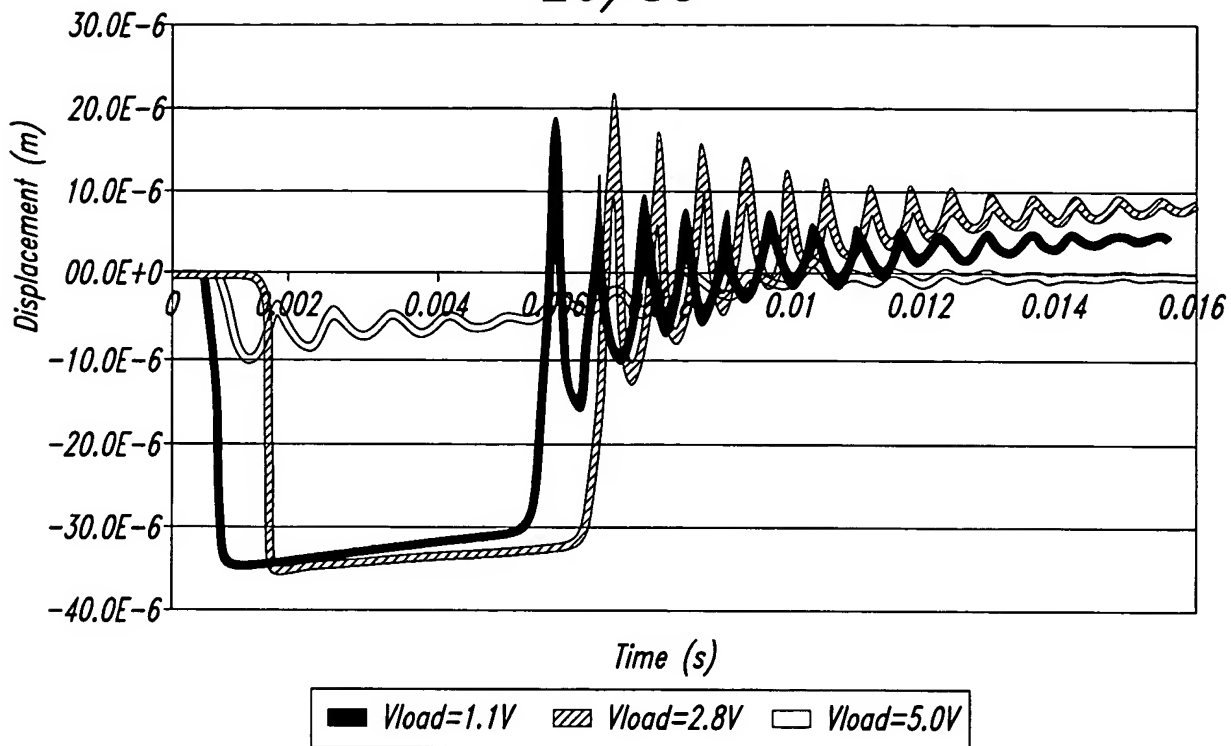


FIG. 32

Sample of responses for varying V_{load} values with $f_b = 1kHz$

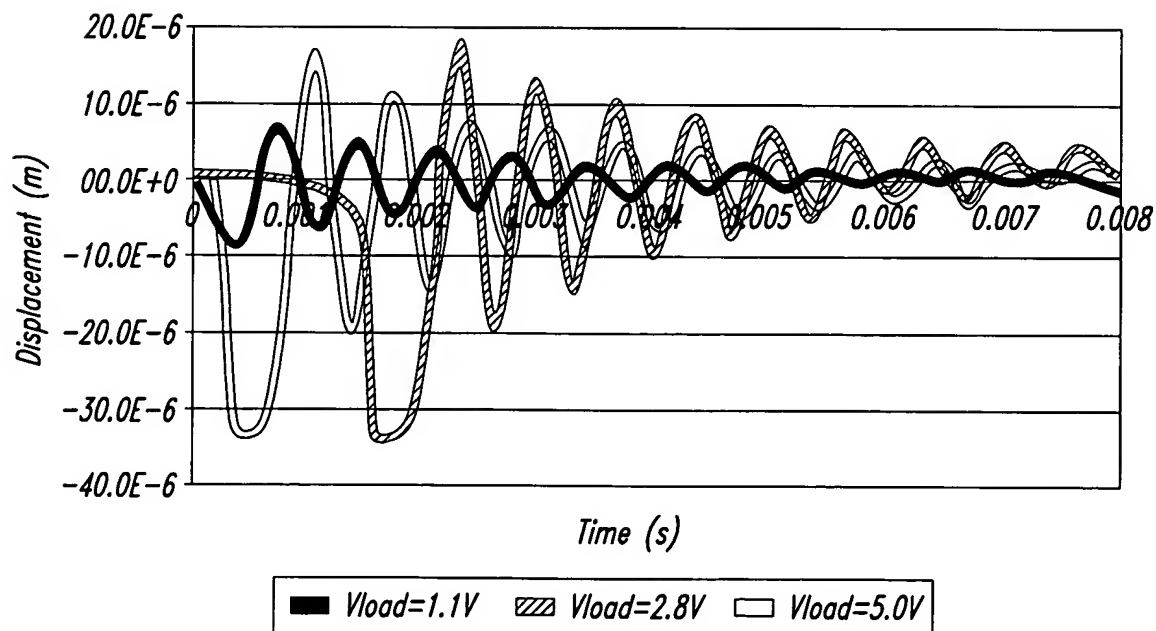


FIG. 33

Replacement Sheet

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Velocity and Displacement of Microvalve
fb = 1kHz; Vload = 3.28V

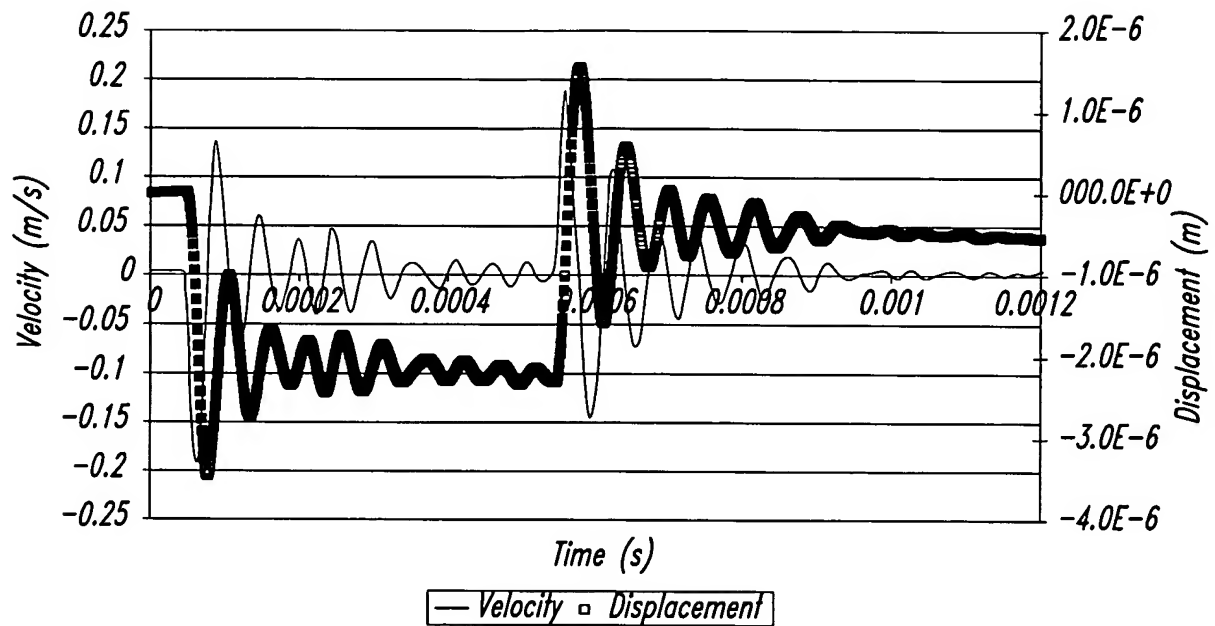


FIG. 34

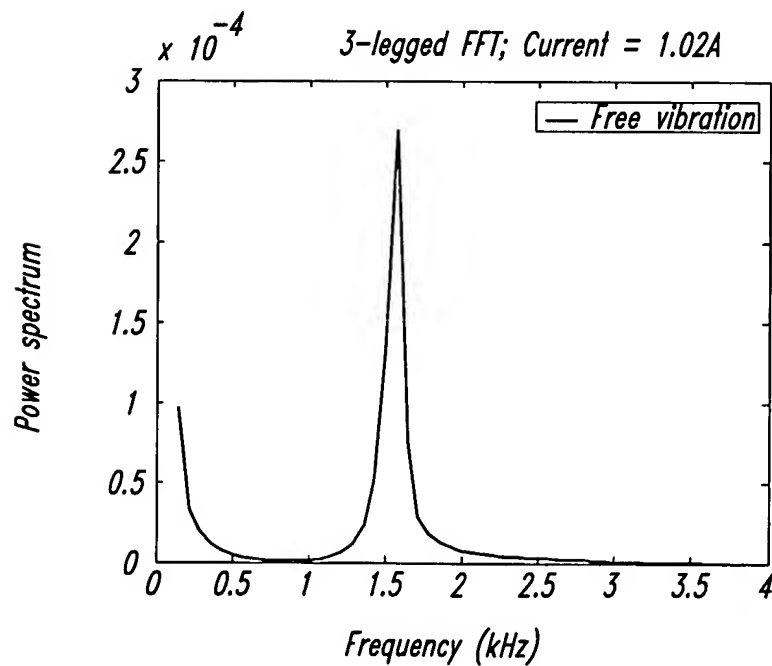


FIG. 35

Replacement Sheet

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Experimental Response

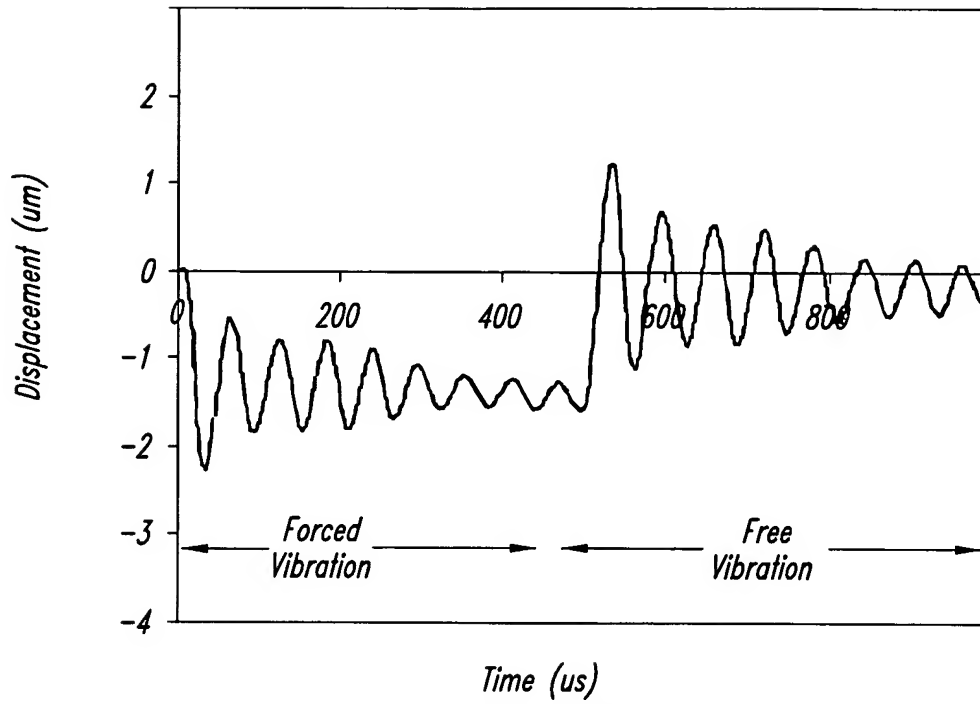


FIG. 36

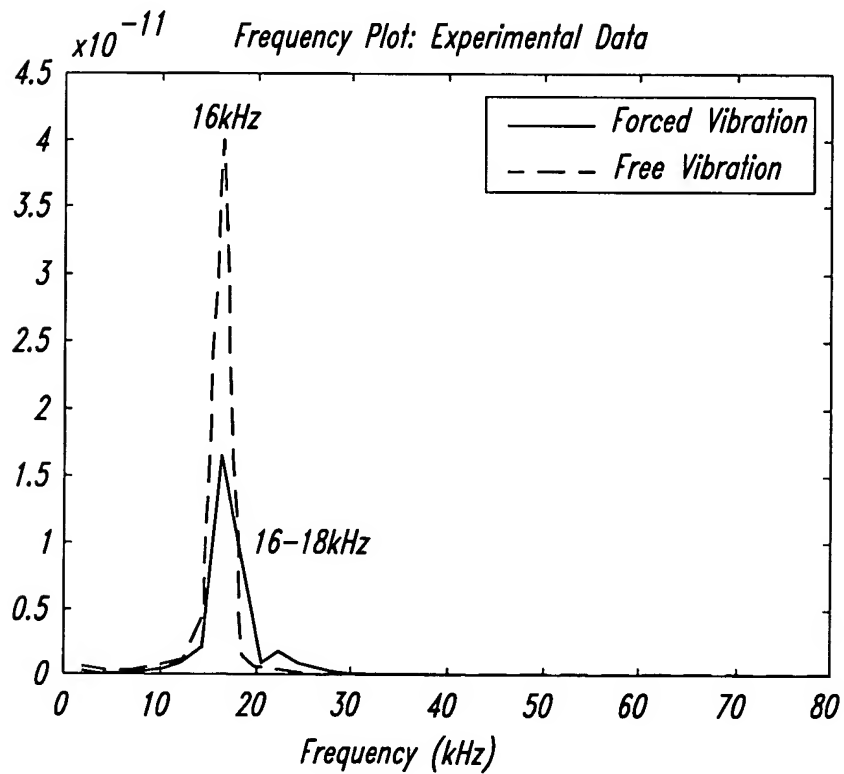


FIG. 37

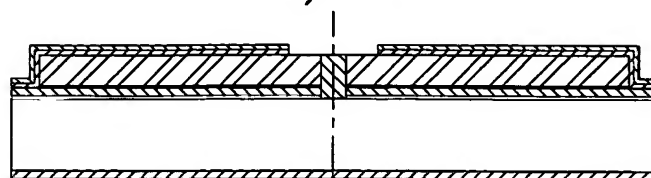


FIG. 38A

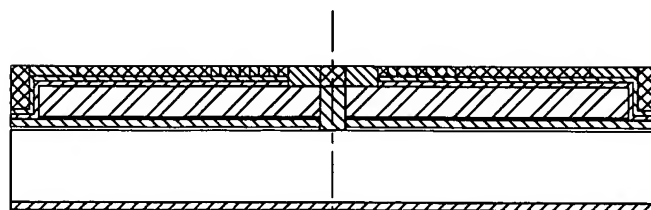


FIG. 38B

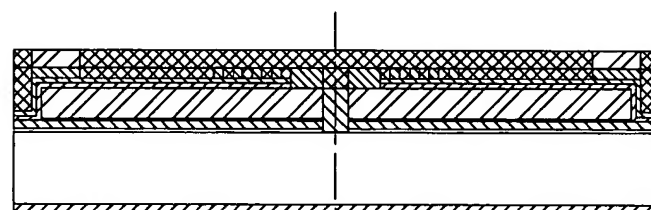


FIG. 38C

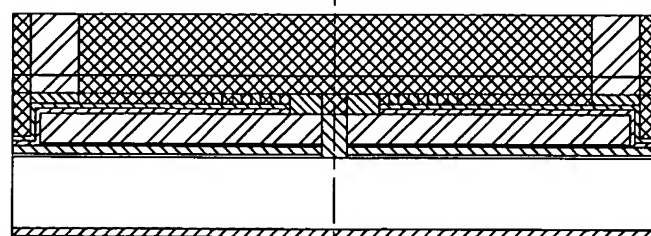


FIG. 38D

Legend:



NiFe



SiO₂



Cu



PR, AZ 4620



Permanent Magnet

Replacement Sheet

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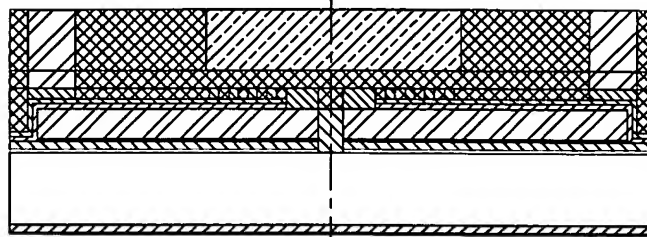


FIG. 38E

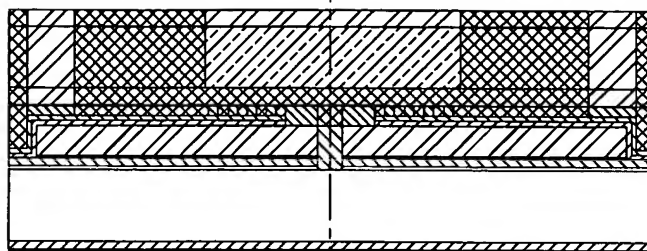


FIG. 38F

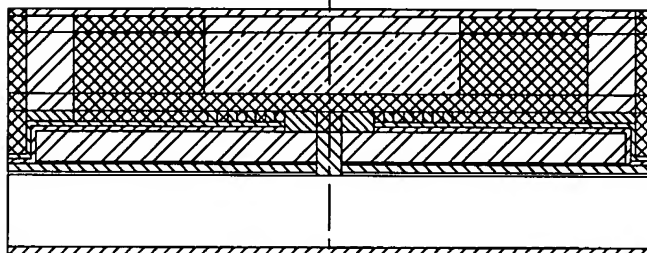


FIG. 38G

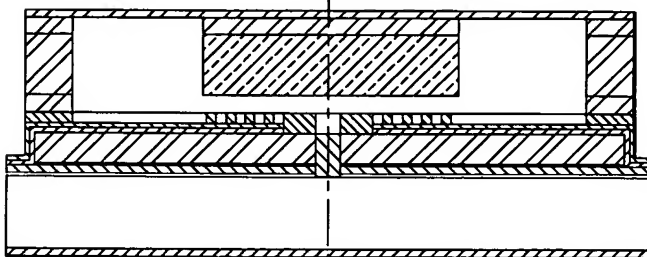


FIG. 38H

Legend:



NiFe



SiO₂



Cu



PR, AZ 4620



Permanent Magnet

Replacement Sheet

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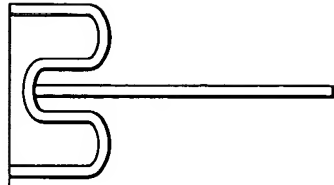


FIG. 39A

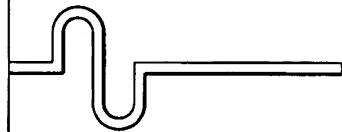


FIG. 39B

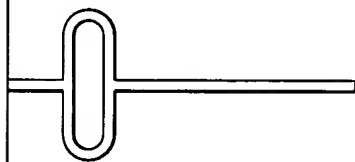


FIG. 39C

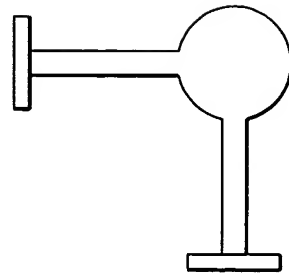


FIG. 40A

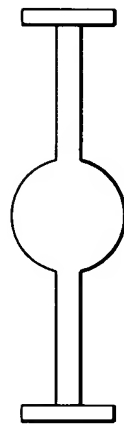


FIG. 40B

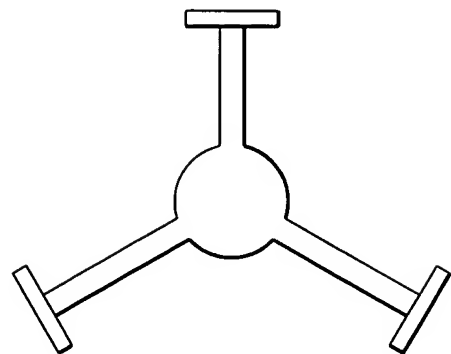


FIG. 40C



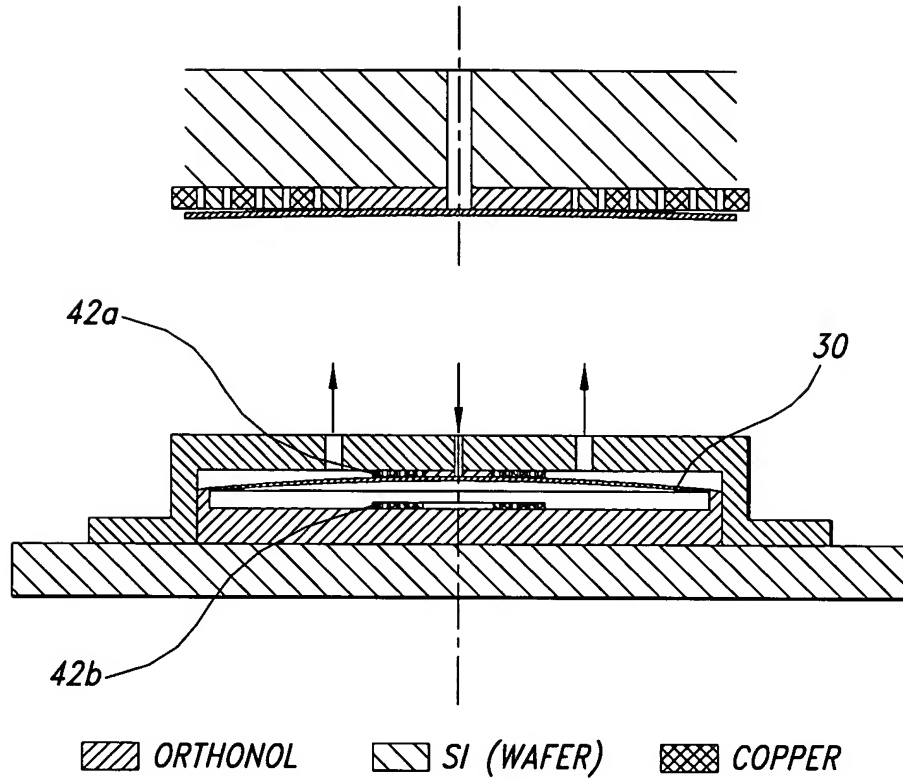


FIG. 41



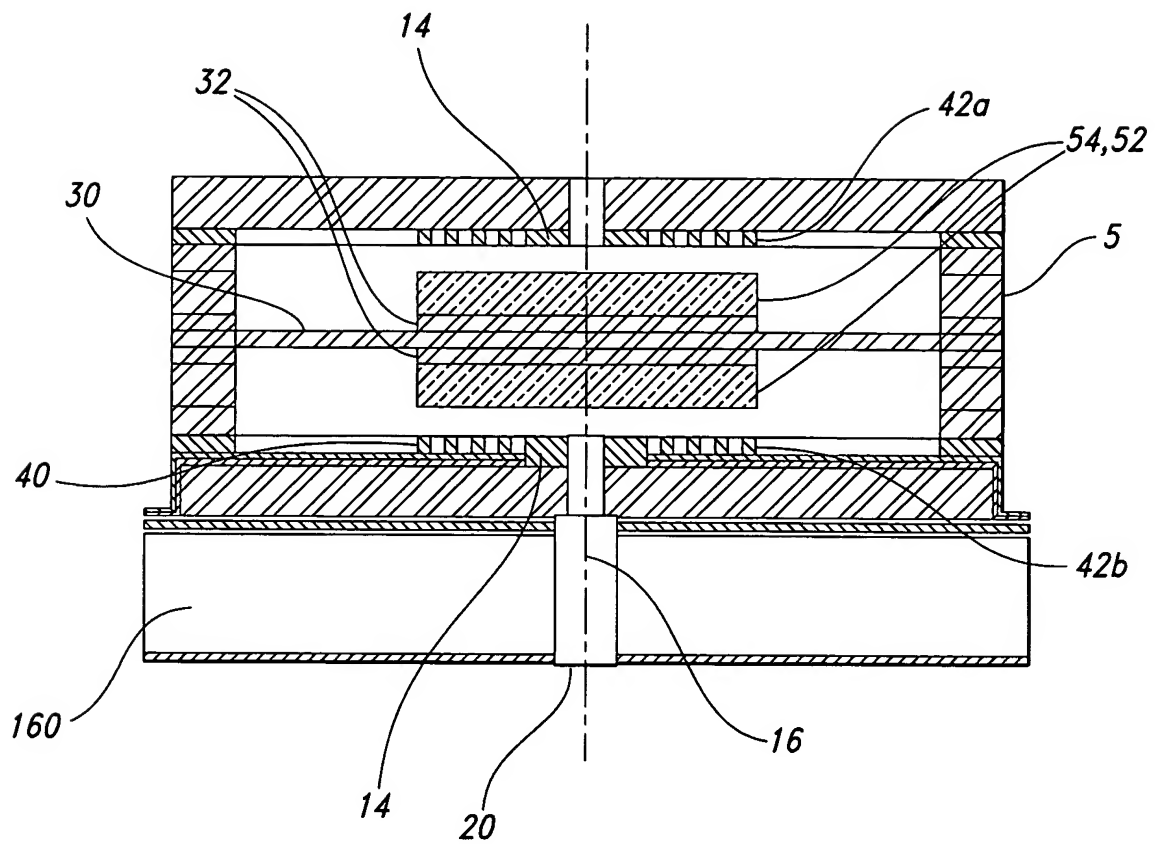


FIG. 42

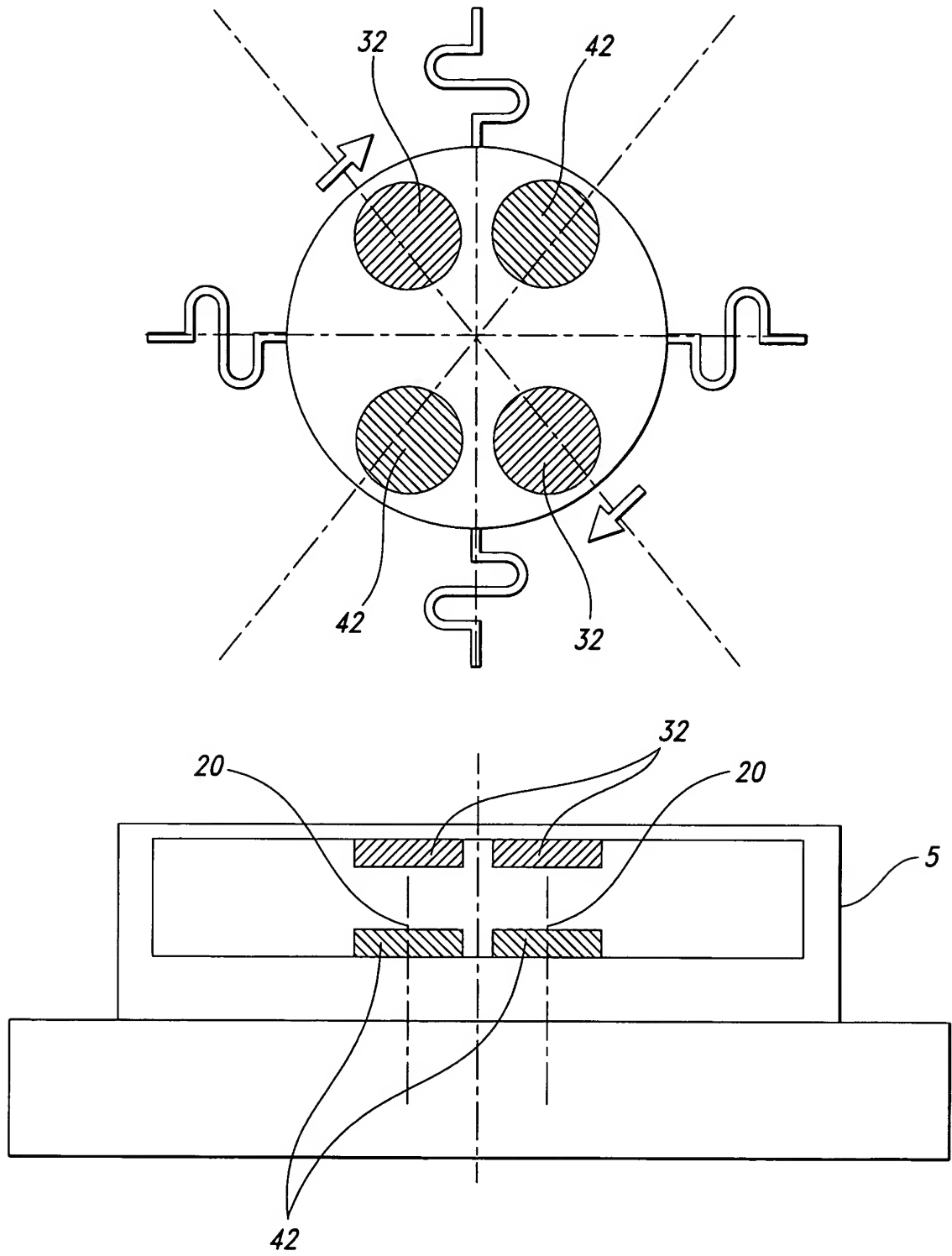


FIG. 43



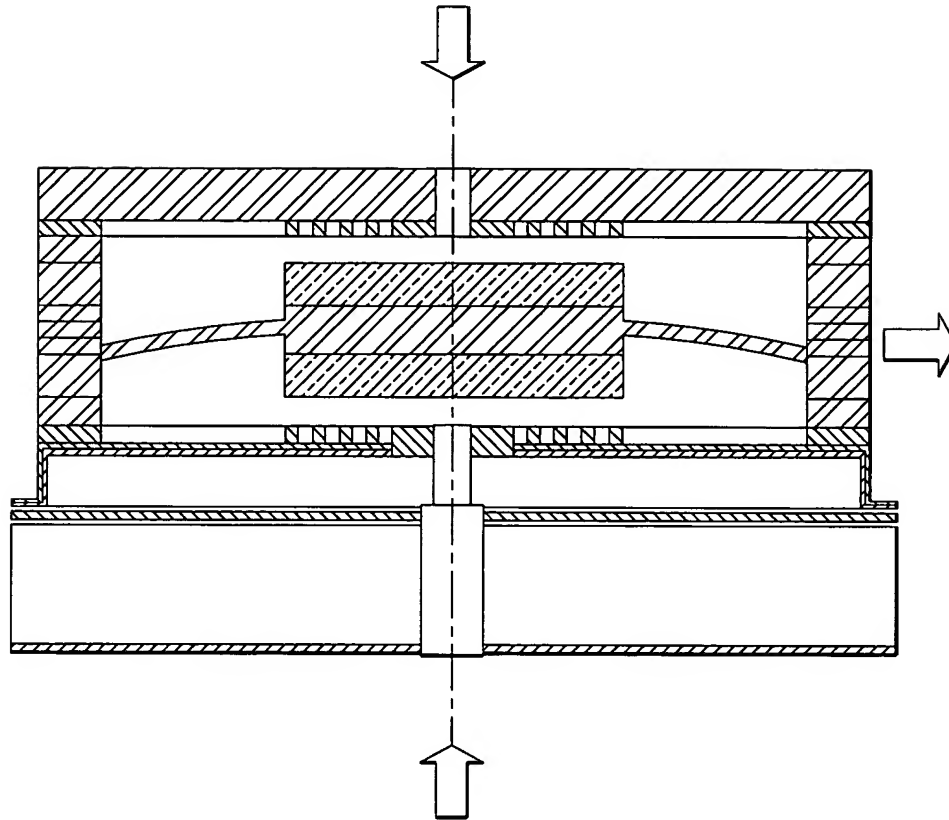


FIG. 44



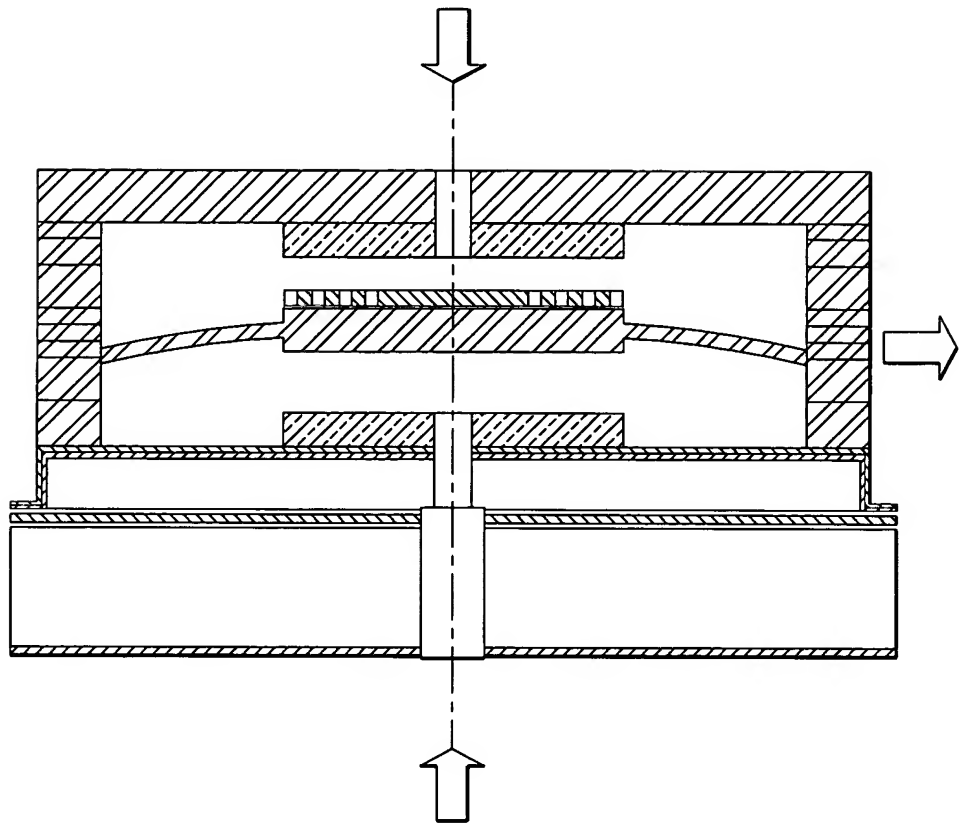


FIG. 45



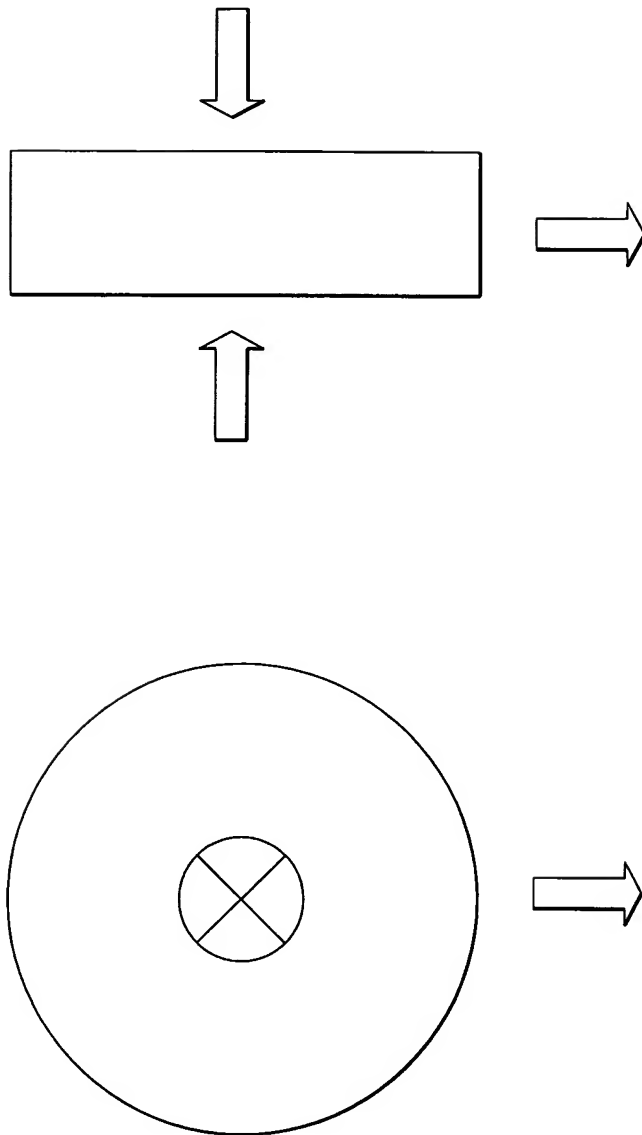


FIG. 46



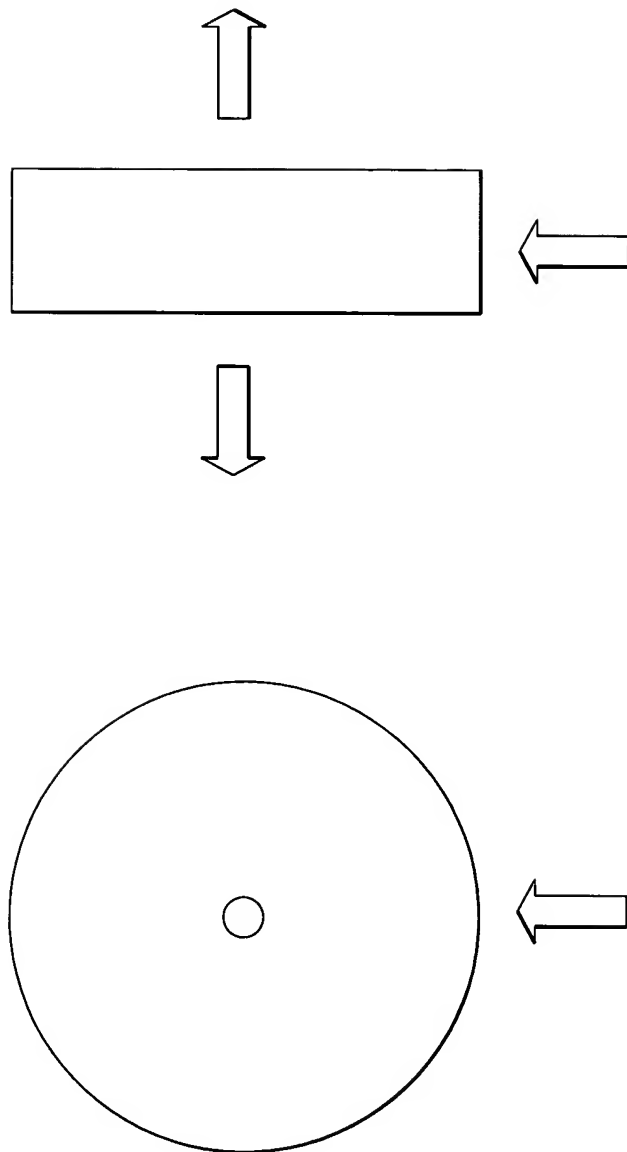


FIG. 47



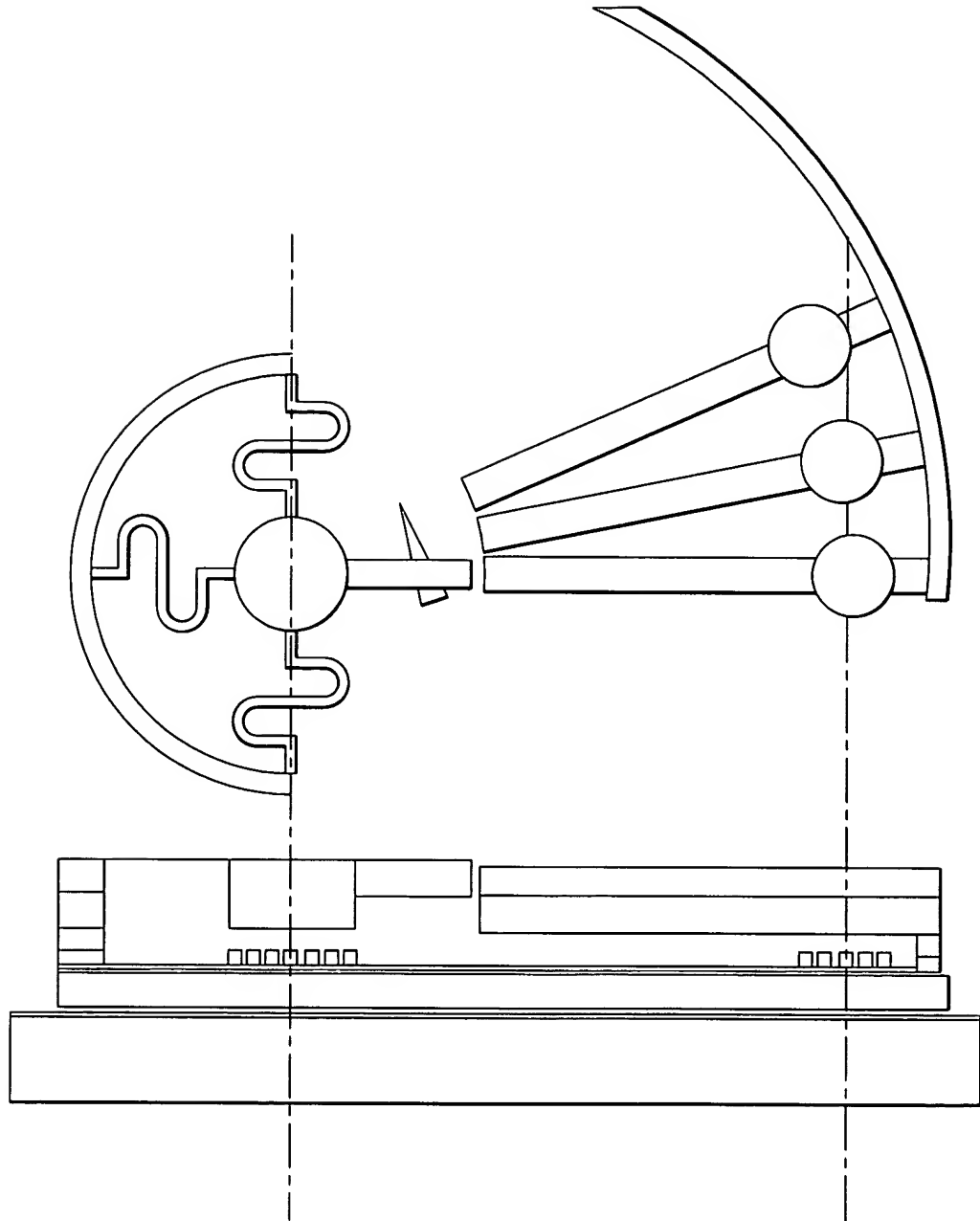


FIG. 48

